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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,764	09/19/2001	Jun Li	10007965	9833

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER
RUTTEN, JAMES D

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Acknowledgement is made of Applicant's amendment dated 14 March 2005, responding

to the 13 January 2005 Office action provided in the rejection of claims 1-43, wherein claims 1,

29, and 36 have been amended, and no claims have been canceled or added. Claims 1-43 remain

pending in the application and have been fully considered by the examiner.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 14 March 2005 has been entered.

Response to Arguments

3.   At the bottom of page 14 of the response filed 14 March 2005, Applicant argues that Kazi

and Blumson "fail to teach or suggest transmitting a global causal identifier across threads and

remote systems...", and that Kazi does not "transmit information or maintain information across

different threads of execution" and further that Kazi does not maintain a global causal identifier.

However, these arguments are not convincing. Kazi discloses the JaViz client/server Java

profiling tool that provides the ability to trace distributed client/server applications (See

Abstract). Distributed client/server applications are inherently executed across threads and

remote systems since a distributed client does not have access to the same computing resources

as a server. Kazi discloses use of global causal identifiers across threads and remote systems in

the fourth full paragraph on page 8:

> To trace client/server activities through RMI, every object to be exported to a remote Jvm
> is given a unique identifier automatically by the server Jvm. Similarly, each method that
> can be remotely invoked in an exported object is also given a unique (within a class)
> identifier by the RMI module. For every remote method invoked through RMI, **JaViz's
> modified Jvm records these identifiers at both the client side and the server side.**

Since the server Jvm gives unique identifiers to every exported object, the only way for this

information to exist on the client is if it were somehow transmitted to it.

4.   Applicant argues at the top of page 15 that Kazi does not maintain an identifier because

the Java Virtual Machine is instrumented, that records are maintained centrally and does not

need to combine multiple logs, and further that Kazi could not maintain an identifier if it called a

software component that does not run on the Java Virtual Machine. However, these arguments

are not convincing.   As discussed above, records are maintained both at the client and server.

Therefore, records are not maintained centrally and combination of multiple logs is necessary

(See page 10 "Merge step"). Furthermore, regardless of whether or not Kazi called a software

component that does not run on the Java Virtual Machine, disclosure is made of maintaining an

identifier in connection with the JaViz tool (See page 8 "unique identifier" as cited above).

5.   Applicant's further arguments on pages 15 and 16 rely on the perceived deficiencies of

the Kazi reference. Therefore, these arguments are not persuasive.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-7, 9-11, 13-19, 21-32, and 35-42 are rejected under 35 U.S.C. 103(a) as being

unpatentable over prior art of record Kazi in view of Blumson.

As per claim 1, Kazi discloses:

A monitoring method for a component-based software system operating over one

or more processing devices See Kazi page 1, Abstract:

> The JaViz performance analysis tool generates **execution traces** with sufficient detail to determine program hot spots, **including remote method calls**, in a **distributed Java application** program

also page 8 paragraph 3:

> ...executing on a physically distributed **processor**.

comprising the steps of:

initiating an invocation of a second software component from within an execution

of a first software component See Kazi page 8 paragraph 3 under "Client/server trace

generation":

> The Java remote method invocation (RMI) facility allows **one Jvm to execute a method on another Jvm**, which may be executing on a physically distributed processor.

> *recording a stub start log data including a global causal identifier before said*

invocation of said second software component See Kazi page 7 last paragraph under

"Detailed trace generation":

> The trace generation module of **the Jvm is modified** to
> **record every invocation** of a method using time stamps that
> **show the start and end times** of the method with microsecond
> resolution.

also, page 4 paragraph 3:

> Invocations of the same method executed under different
> threads are distinguished from one another by their **unique**
> **thread identifiers**.

also page 5 paragraph 3:

> In addition to the parent-child links to reflect the call
> graph, each record contains such information as the number
> of methods invoked by this method, the time when the method
> started, the time when it completed, the thread executing
> this method, the **method identifier** of the method call being
> represented, and the specific Jvm on which the method is
> executed.

> *transmitting the global causal identifier from the first software component to the*

second software component wherein the second software component executes on a

separate thread and in a system remote from the first software component; See fourth

full paragraph on page 8:

> To trace client/server activities through RMI, every object
> to be exported to a **remote Jvm** is given a **unique identifier**
> automatically by the server Jvm. Similarly, each method
> that can be remotely invoked in an exported object is also
> given a unique (within a class) identifier by the RMI
> module. For every remote method invoked through RMI,
> **JaViz's modified Jvm records these identifiers at both the**
> **client side and the server side**.

> *recording a stub end log data including the global causal identifier in said*

instrumented stub after a response is received from said invocation of said second

software component, said response including the global causal identifier See Kazi page

7 last paragraph, and pages 4 and 5 as cited above.

wherein said stub start log data and said stub end log data gather runtime

information about execution of said second software component within said component-

based software system See Kazi page 7 last paragraph:

> "Additionally, a thread identifier is recorded to uniquely
> identify the thread executing the method.

Kazi does not expressly disclose an instrumented stub.

However, in an analogous environment, Blumson teaches instrumenting a stub to

collect runtime data. See page 6, Section 6.1: "Our IDL compiler has an

additional command-line flag…to **insert instrumentation**."

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to use Blumson's stub instrumentation implementation in Kazi's instrumented

jvm. One of ordinary skill would have been motivated to take measurements on certain

operations such as marshalling time that are otherwise difficult, while maintaining a

relatively simple implementation versus modification of a runtime library.

In regard to claims 2-7, 9-11, 13-19, and 21-28, the above rejection of claim 1 is

incorporated. All further limitations have been addressed in the previous Office action

dated June 7, 2004.

As per claim 29, Kazi discloses: *processing an accumulated log data and calculating a system behavior characteristic for one or more software components executing within said component-based software system*   See page 5 paragraph 2:

> The tree generation step **analyzes the merged trace files to create an output file containing the dynamic execution tree** for a given client or server program. This output file is used by the visualizer to display the call graph.

All further limitations have been addressed in the above rejections of claims 1 and 9.

In regard to claims 30-32 and 35, the above rejection of claim 29 is incorporated. All further limitations have been addressed in the previous Office action dated June 7, 2004.

As per claim 36, Kazi discloses a computer system (Figure 3). All further limitations have been addressed in the above rejection of claim 1.

In regard to claims 37-42, the above rejection of claim 36 is incorporated. All further limitations have been addressed in the previous Office action dated June 7, 2004.

8.   Claims 8, 12, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kazi and Blumson as applied to claim 7, 9, and 36, respectively above, and further in view of prior art of record U.S. Patent 5,522,073 to Courant et al. (hereinafter referred to as "Courant").

In regard to claims 8 and 12, the above rejection of claim 1 is incorporated. All

further limitations have been addressed in the previous Office action dated June 7, 2004.

In regard to claim 43, the above rejection of claim 36 is incorporated. All further

limitations have been addressed in the previous Office action dated June 7, 2004.

9.   Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of

Kazi and Blumson as applied to claim 9 above, and further in view of prior art of record U.S.

Patent 5,146,593 to Brandle et al. (hereinafter referred to as "Brandle").

In regard to claim 20, the above rejection of claim 1 is incorporated. All further

limitations have been addressed in the previous Office action dated June 7, 2004.

10.   Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Kazi and Blumson as applied to claim 29 above, and further in view of prior art

of record "Unix Power Tools" by Peek et al. (hereinafter referred to as "Peek").

In regard to claim 33, the above rejection of claim 29 is incorporated. All further

limitations have been addressed in the previous Office action dated June 7, 2004.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

US 5956509 A to Kevner teaches the transmission of identifiers in a distributed execution

(See column 12 lines 43-61).

US 20020083211 A1 by Driesner et al. teaches the transmission of identifiers in a

distributed execution (See page 6 paragraph [0092]).

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The

examiner can normally be reached on T-F 6:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WEI Y. ZHEN
PRIMARY EXAMINER

jdr